ENVIRONMENTAL TOPICAL AREA
CONTINUING TRAINING

Treatment, Storage, and Disposal Facility Oversight

SELF-STUDY GUIDE

Produced by
U. S. DOE - Rocky Flats Field Office
Training and Technical Qualifications Group

Additional copies of this guide can be downloaded from the Internet
http://cted.inel.gov/cted/rfv/video.htm

GOAL

The goal of this learning activity is for you to apply your knowledge of environmental compliance. This is accomplished through short video vignettes that address common issues and potential problems found throughout DOE facilities. You will be introduced to five key questions that you will use to resolve the issues presented in the vignettes. When you know how to analyze situations and ask the right questions, the issue is mostly resolved.

This is one of three learning activities available to you. This program deals with oversight issues found at DOE Treatment, Storage, and Disposal facilities. The other two videos deal with Analytical Laboratory Oversight and CERCLA Activities Oversight.

MATERIALS

You will need the following materials to complete this self-study activity:

- Program 1 video tape
- A VHS VCR and television monitor
- Pencil or pen for taking notes

PRE-REQUISITES

This is a program of "continuing training." To get the full benefit of these learning activities it is recommended that participants have a basic knowledge of the information found in the Environmental Technical Qualification Program Self-Study Guide. This guide is available from the DOE Clearinghouse for Training, Education and Development web site at http://cted.inel.gov/cted/trainmat.html.

HOW TO PROGRESS THROUGH THE ACTIVITY

This self-study guide will take you step-by-step through this activity. It is important to read through these instructions completely before beginning.

The video tape has short vignettes that you will play for a few minutes and, when prompted, stop the tape to review what you saw and record your answers. Do not let

the tape continue to play into the next section until you have had a chance to write down your responses.

An exact duration for this learning activity is not indicated. The length of time it will take to complete depends on how much time you take to answer the questions posed. At least two hours should be allowed.

Be sure to take a break when you need one. Set up the VCR and monitor in front of you in a comfortable position; then begin when you are ready.

BEGIN

INTRODUCTION - The video begins with a brief introduction and asks the viewer to obtain the correct guide.

PART I - Sharon (the Environmental Programs manager) and Martin (an environmental engineer) discuss treatment, storage, and disposal facility oversight activities.

In the first segment, you should observe the terrain, conditions, and activities that are covered by a regulation or policy that you are expected to apply.

Example: Activities may result in emissions to the air; therefore, you will be concerned with the "Clean Air Act."

Stop the video tape when asked and take a few minutes to answer the five key questions starting on page 5. Then address the question regarding Martin's scope of responsibility. When you are finished compare your answers to the information listed on page 7 and continue the video when ready.

Start the video tape.

The Five Key Questions

1. "What is happening?"

_____
_____
_____
_____
_____
_____
_____

2. "What 'questions' should I ask?"

_____
_____
_____
_____
_____
_____
_____

3. "What research should I do?"

_____
_____
_____
_____
_____
_____
_____

4. "What 'rules' apply?"

_____
_____
_____
_____
_____
_____
_____

5. "What are the overlaps (interrelationships), if any?"

_____
_____
_____
_____
_____
_____
_____

And an added question . . .

Where does Martin "draw the line" for his responsibilities?

_____
_____
_____
_____
_____
_____
_____

ANSWERS - The following are answers to the above questions that you should have come up with:

Martin is new to the Treatment, Storage, and Disposal facility. He should be carefully examining the facility operation as a whole.

Please note: Conditions and practices at locations across the DOE complex can vary widely. Simply being different does not mean it's wrong. Also, this material is not all-inclusive. You will likely see and discuss issues not mentioned in this guide. Those additional issues are both valid and pertinent to the topic. Such discussion is encouraged.

When asking the "5 Key Questions" Martin should be looking for the following:

1. "What is going on?"

Martin should immediately learn:

- the processes that the facility performs;
- possible sources of emissions and releases, and the potential for these;
- what the people are doing and how they do it; and
- why each person is performing a particular task.

The fundamental goal of RCRA is to protect human health and the environment. His observations should direct him to identify the mission of the facility and whether it is being achieved. Martin should also evaluate how personnel perform their jobs in respect to protecting human health, the water, the air, and the soils that surround them. Martin should be looking for emission sources, releases, and the potential for these.

Martin should perform a preliminary survey of the facility's operations. This is to determine obvious "good" and "bad" practices. Good housekeeping of the facility and the professional manner in which personnel perform their work are good indicators of how well the facility is in compliance with state and Federal laws. Likewise, poor housekeeping is an indication that poeple amy be unprofessional and not well disciplined in their work practices. This can be a good indicator that state and Federal laws are not being adhered to.

These are examples of the observations that should have been made when asking "What is going on?"

2. "What questions should I ask?"

In this instance, the first question should be "Is the facility permitted?" A Treatment Storage and Disposal facility must be permitted by RCRA under 40 CFR 264, "TSD Facility Standards;" or 40 CFR 265, "Interim Status TSD Standards."

Next, he will want to know who is in charge? . . . what is the organization structure? . . . what is the history of operations and any related problems? . . . and what are the current "hot" issues?

3. "What research should I do?"

For a newly assigned Environmental Rep the research should take two forms:

First, what guides the operation? . . . and second, how does the facility <u>really</u> operate?

Martin should ask to see:

- A copy of the facility's RCRA final permit (if the facility has final approval) to determine the specific terms and conditions under which the facility is to operate. The final permit will detail the very specific requirements for facility operations in 40 CFR 264. This is the law that specifies the TSD must comply with the terms and conditions of the permit.

- Any Clean Air Act permits, Title V: Permits, which the facility is subject to. (This, like the RCRA permit, must be reviewed to determine the terms and conditions. The Clean Air Act permit will not conflict with the RCRA permit but will work in concert with it.)

- Title III of the CAA, "Hazardous Air Pollutants."

- Associated with this CAA permit will be requirements with NESHAP regulations. See 40 CFR 61.

- Clean Water Act. Also, if the facility discharges to the waters of the United

States as a result of waste treatment operations, they will be subject to a National Pollutant Discharge Elimination System (NPDES) permit.

- The Safe Drinking Water Act will have to be assessed in relationship to the impacts the facility may have on potential contamination to the drinking water of the surrounding communities.

- Likewise, the facility will be subject to Storm Water Pollution Prevention provisions with respect to protection of the groundwater and surface waters.

- The facility's Spill Prevention Control and Countermeasures plan.

- The potential for migration of any and all hazardous constituents from the water, soil, or air.

- Assess operating practices against the above requirements and note any deviations.

- This is not all inclusive. Martin should look at any other federal, state, or local requirements and agreements that may be imposed on the facility.

4. "What rules apply?"

The rules that apply are generally reflected in operating procedures that are based on the permits, laws, and policies that are in effect regarding the facility and activities. A first clue is Martin's statement that he needed to know the relationship between the TSD and other sites, like the CERCLA site, the analytical lab, etc. TSD operations are regulated specifically under 40 CFR 270 and either 40 CFR 264, for a fully permitted facility or under §265, for interim status facility. For a fully permitted facility, it is essential that Martin review the conditions of the Final Permit to know exactly what is required of the facility.

If the facility were still under "interim status" §265, there would be no Final Permit and operating standards would be a little more flexible. Under interim status the facility should be working to prepare a RCRA Part B Permit Application for review by the state in which the facility is sited and/or the appropriate EPA Region. Generally, the state is fully authorized to administer the permit program of EPA.

A ***partial*** list follows:

- 40 CFR 61 Subpart H, “NESHAP regulations”
- 40 CFR 264, “Standards for Owners and Operators of Hazardous Waste Treatment, Storage and Disposal Facilities”
- 40 CFR 265, “Interim Status TSD Standards”
- 40 CFR 270, “EPA Administered Permit Programs: The Hazardous Waste Permit Program”
- Clean Air Act: Pre1990 version was codified at 42U.S.C. §§7401-7626. The 1990 amendments added comprehensive provisions to regulate emissions of toxic air pollutants (section 112), acid rain (TitleIV), and substances thought to threaten the ozone layer (Title VI), permit program (Title V), and strengthened enforcement provisions (section 113) and requirements for nonattainment areas, mobile source emissions, and automotive fuels. (See also 40 CFR Subchapter C)
- Clean Water Act: 33 U.S.C. §§ 1251-1376, Pub. L. No. 92-500, 86 Stat. 16 (1972); 33 U.S.C. §§ 1401-1445, Pub. L. No. 92-536, 86 Stat. 1052 (1972); Pub. L. No. 95-217, 91 Stat. 1567 (1977); Pub. L. No. 95-576, 92 Stat. 2467 (1978); Pub. L. No. 97-117, 95 Stat. 1623 (1981); Pub. L. No. 100-4, 101 Stat. 76 (1987). (See also 40 CFR Subchapter D)
- Storm Water Pollution Prevention. (See also 40 CFR Subchapter D)
- Safe Drinking Water Act: 42 U.S.C. §§ 300f-300j-11; Pub. L. No. 93-523, 88 Stat. 1661 (1974); Pub. L. No. 99-339, 100 Stat. 666 (1986). (See also 40 CFR Subchapter D)
- Superfund, Emergency Planing, and Community Right to Know Act, 40 CFR Subchapter J
- Toxic Substances Control Act (TSCA). (See also 40 CFR Subchapter R)

The above is not an inclusive list. Many other Federal laws may apply. It also does not address state or local laws, contractor procedures, or agreements among stakeholders. Martin needs to know all of the regulations that have

bearing on facility operations.

These examples show how these regulations should be applied. They also help to answer the fifth question:

5. "What are the overlaps?"

- A copy of the facility's RCRA final permit determines the specific terms and conditions under which the facility is to operate. To have received a final permit the facility will have completed submission of a RCRA Part A Permit Application, followed by submission of a RCRA Part B Permit Application. After several stages of review, the state (if authorized by EPA) will have issued the facility an operating permit.

- 40 CFR 270, "EPA Administered Permit Programs: The Hazardous Waste Permit Program," details the permit process. 40 CFR 264, "TSD Facility Standards," outlines the requirements a fully permitted TSD will be subject to. The final permit will detail the very specific requirements as outlined in 40 CFR 264 that the TSD must operate to comply with the terms and conditions of the permit.

- Martin must review any Clean Air Act permits, Title V: Permits, which the facility is subject to. (This, like the RCRA permit, must be reviewed to determine the terms and conditions. The Clean Air Act permit will not conflict with the RCRA permit but will work in concert with it.) This is achieved by applying for a "Permit to Construct" which is generally subject to state primacy, however, there are a number of shared responsibilities with EPA.

- He would also want to review Title III, "Hazardous Air Pollutants" of the CAA. Associated with this CAA permit will be requirements with NESHAPS regulations.

  Radiological NESHAPS regulations (40 CFR 61 Subpart H) require DOE facilities to limit the annual effective dose equivalent to any member of the public to 10 mrem or less.

- Martin must review any Clean Water Act provisions the facility may be subject to. For example, if the facility discharges to the waters of the United States whether or not as a result of waste treatment operations,

they will be subject to a National Pollutant Discharge Elimination System (NPDES) permit.

- Likewise, the facility will be subject to Storm Water Pollution Prevention provisions. There are permits that the facility may be subject to with respect to protection of the groundwater and surface waters.

- He will need to review the facility's Spill Prevention Control and Countermeasures plan.

- The Safe Drinking Water Act will have to be assessed in relationship to the impacts the facility may have on potential contamination to the drinking water of the surrounding communities.

- In general, Martin must evaluate the potential for migration of any and all hazardous constituents from the water, soil, or air and apply the applicable standard.

- The above is not all inclusive. He should look at other federal, state, or local requirements that may be imposed on the facility.

"Where do I draw the line?"

Martin is responsible for oversight and compliance of any activity covered by the laws mentioned in the five key questions. He is also interested in any process that could yield an emission that may migrate beyond facility and site boundaries.

He is responsible for oversight of contractor operations and for compliance in all areas.

RESTART THE TAPE

PART II - This time be more specific in your responses. Identify the activities being performed and, more preciecly, what are the requirements.

Example: Emissions to the air from incinerator operations require permits from the State EPA that establish emission limits that must be monitored and controlled.

Before you stopped the tape, Sharon asked the five key questions.

1. "What is happening?"
2. "What 'questions' should I ask?"
3. "What research should I do?"
4. "What 'rules' apply?"
5. "What are the overlaps (interrelationships), if any?"

Sharon also will ask whether Martin is correct in his assessment of violations. Is it a problem or just Martin's over-reaction?

Sharon asks another question: "Where do you start?" Stop the video tape when asked and take a few minutes to answer the five key questions by indicating what actions Martin should take to understand and gain control of the operations of the facility. These questions start on page 14. When you are finished compare your answers to the information listed on page 16 and continue the video when ready.

The Five Key Questions

1. "What is happening?"

_____

_____

_____

_____

_____

_____

_____

2. "What 'questions' should I ask?"

_____

_____

_____

_____

_____

_____

_____

3. "What research should I do?"

_____

_____

_____

_____

_____

_____

_____

4. "What 'rules' apply?"

_____
_____
_____
_____
_____
_____
_____

5. "**What are the overlaps** (interrelationships), if any?"

_____
_____
_____
_____
_____
_____
_____

An added question . . .
"Is it 'Just Martin' or is their justification for corrective action? Explain.

_____
_____
_____
_____
_____
_____
_____

ANSWERS - The following are answers to the above questions that you should have come up with:

Martin has had an opportunity to explore the TSD and has made several discoveries. These discoveries and the resulting actions are addressed using the "5 Key Questions:"

1. "What is going on?"

According to Martin the TSD is fully permitted. Sampling, repackaging, and incinerator operations are being conducted at an accelerated pace. Waste is being received and shipped regularly and activities appear to be closely monitored by the facility manager.

One area that troubles Martin is a large storage container holding 15 gallons of nitric acid. Martin sees it as a hazardous chemical being stored in an unpermitted condition. The facility manager considers it a process chemical that may be needed on an immediate basis. Additional evidence that Martin discovers suggest multiple permit and procedure violations. This raises the question regarding a pervasive breakdown of compliance warranting a facility shutdown.

2. "What questions should I ask?"

All questions should relate to permit provisions, laws, agreements, and contractor policies - and whether all operations were in compliance.

First, in the case of the chemical tank, Martin asked all the right questions in his conversation with the facility manager. His concern now is whether he understood the permit conditions and operating practices adequately to determine whether there was a permit violation.

Second, given all of the other observations, are they separate isolated incidents? . . . are they really violations? . . . how serious are the violations? . . . and, are there adequate safety concerns to warrant a shutdown of operations?

3. "What research should I do?"

- Re-read the facility's RCRA final permit. The TSD must operate to comply with the terms and conditions of the permit.

- Check previous reports by Facility and Environmental Reps, external audits, and internal assessments for incidents of violations.

- Check for ORPS reports or Lessons Learned where this facility may have been involved in a reportable incident or accident.

- Ask colleagues at other locations to review your concerns and offer guidance.

4. "What rules apply?"

The TSD is subject to RCRA under 40 CFR 264. The TSD will have a permit issued by the state or EPA region in which the facility is located.

The incinerator is subject to most of the sections of §264 but focus should be on Subpart "O" (incinerators) of that section.

Waste sampling is part of compliance to §264.13, "General waste analysis."

In the sampling scene there was a requirement under §264.35, "Required Aisle Space" to maintain aisle space to allow "the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment of any are of the facility operation in an emergency."

The scene of sampling activity would give rise to investigation of adequate training of personnel under §264.16, Personnel, Training; and evaluation of § 264 Subpart D, "Contingency plan and emergency response."

Spills would be subject to §264 Subpart F, "Releases from solid waste management units."

Martin may not have been trained properly under 29 CFR 1910.120(p), the OSHA standard for personnel working at a TSD and 40 CFR 264.16. Compliance would precluded him from entering a sampling zone without proper personal protective equipment.

The facility likely violated §264.14, "Security" by letting Martin just wander around the facility, if he were not properly trained. The area was not properly marked for avoidance of the casual wanderer from coming into an area where sampling was taking place.

There are inspection standards under §264.15, “General inspection requirements”, which on the surface it looks as if the facility may be violating especially if the waste were released to the parking lot and subsequently to the river via storm water run off.

Containers being so close together may indicate to an inspector that waste characterization is not being handled properly. The facility would likely be back to defending its §264.13, “General waste analysis” requirements. The permit condition would likely be far more restrictive.

Adding absorbent to a container to tie up the free liquids constitutes a treatment (40 CFR 260.10) and, if the facility is not permitted to do so, it is a permit violation.

Handling the volume of waste depicted will impose manifesting requirements per 40 CFR 262 as well as 40 CFR 264, Subpart E, Manifest System, Recordkeeping, and Reporting. There a number of items here that Martin would want to review to make certain the proper documentation was provided to receive the waste. He would also want to make certain that the facility was permitted to accept all wastes per the permit (Section A) - and the facility Waste Acceptance Criteria.

5. “What are the overlaps?”

By looking at the number of Federal regulations listed above and discussed after the first vignette, one can easily see that the opportunity for competing regulations is great. Often the regulations will spell out the provisions for dealing with such conflict. Where there is no guidance, whether in the regulations or in the permit, safety will always be considered first.

Issues where there is no clear hierarchy of precedence should be openly discussed and prioritized through collaboration between the facility manager, DOE personnel and other stakeholders. Failure to acknowledge and deal with competing regulations will virtually always lead to problems.

RESTART THE TAPE

Part III: - "Is it just Martin?"

Martin and Sharon have discussed his findings at the facility. Martin is unsure of the action(s) that he should take. Sharon asks you to recommend the action that Martin should take.

What actions would you recommend to Martin.

Example: "At a TSD, the processes must be described in detail in the RCRA permit. Processes, chemicals, and limits are prescribed. Any activities outside the permit must be immediately addressed."

When you are finished compare your answers to those listed on page 20 and continue the video when ready:

ANSWERS - The following are recommended solutions that you should have come up with:

What Martin describes appears to be a violation of permit conditions. He would be correct to order some remedial action. The rationale used by the facility manager is not supported in either the work plan or the permit.

The major problem with the acid tank is whether it is permitted to hold the chemical if it is classified as a waste. If it is a process chemical and not a waste, AND it is currently being used OR has a planned use in the near future, then 15 gallons is no problem. However, if there is no planned use for the chemical, the generator of the chemical has the total burden to prove his/her position that it is not a waste. For a container there is a provision known as the "empty ***container*** rule" (40 CFR 261.7). A ***container*** of 500 gallons could have only 15 gallons left and be considered empty. However, this is a ***tank*** and there is no such rule for this. The definition is significant. No matter how well they argue, the facility is in violation on this issue.

By asking, "How would a regulator view this?" it should be clear that a notice of violation could be issed yielding penalties and/or fines to the facility.

If the acid tank were the only issue, it could be dealt with directly with no operational disruption. Remedial action based on multiple violations appears to be justified. Remedial actions can be up to and may include partial or full shutdown. An action this serious should be taken in collaboration with other DOE officers and contractor management. Where safety is an issue, an immediate "stop work order" is justified.

RESTART THE TAPE

PART IV -

Computer-based expert systems for environmental permitting and compliance are available from the INEEL:

Name: Wayne Simpson
Address: LMITCO
P.O.Box 1625 MS 3429
Idaho Falls, ID 83415
Phone: (208) 526-8745
e-Mail: JSI4@inel.gov

Or

Name: Bruce Angle
Address: LMITCO
P.O.Box 1625 MS 3428
Idaho Falls, ID 83415
Phone: (208) 526-1841
e-Mail: BA4@inel.gov

The computer-based expert system being developed by Hanford is no longer available.